

Formula Challenge

Name _____

What do the following units represent? Use D for distance, T for time, S for speed, or A for acceleration.

- | | | | |
|-----------------|-------------------------------|------------------|------------------------|
| _____ 1. 14 km | _____ 4. 6 hours | _____ 7. 14 mi | _____ 10. 1.4 m |
| _____ 2. 30 m/s | _____ 5. 12 cm/s ² | _____ 8. 3.2 sec | _____ 11. 6 cm/min/sec |
| _____ 3. 34 min | _____ 6. 150 mph | _____ 9. 25 ft | _____ 12. 3 km/hr/sec |

Solve each problem! Be sure to show your work!

13. Goldie Goldfish, a speed swimmer, loves to race around the park's pond, which is 0.5 miles around. If she can swim 20 laps around the track in 2 hours, what is her average speed?
14. It takes Stu, a slimy slug, 20 minutes to travel from his favorite bush to the local trash can (a trip of 30 meters), how far can he travel in 1 hour (60 minutes)?
15. At exactly 2:00 pm, Speedy the Snail crawls onto a meter stick at the 10 cm mark. If he reaches the 65 cm mark at exactly 2:10 pm, what is his speed?
16. If it takes Leaping Louie 5 minutes to jump 3 blocks, how long will it take for him to jump 15 blocks?
17. If Bert the Bat travels eastward at 40 mph with a tail wind of 6 mph, what is his actual speed?
18. Toon Train is traveling at the speed of 10 m/s at the top of a hill. Five seconds later it reaches the bottom of the hill and is moving at 30 m/s. What is the rate of acceleration of Toon Train?
19. Pete the Penguin loves to sled down his favorite hill. If he hits a speed of 50 m/s after 5 seconds, what is his rate of acceleration? Hint: He starts at 0 m/s at the top of the hill.
20. Monster Mike's truck decelerates from 72 m/s to 0 m/s in 6 seconds. What is his rate of deceleration?

8th grade science

21. A roach moves down the hall at 1.2 m/s. When he sees the janitor coming down the hall, he begins to run. After 3.2 s, he is moving at 3.6 m/s. What is his acceleration?
22. Instead of doing his work, Georges throws a textbook at Devine. After just 0.2 s, it is moving at 10.4 m/s. Find its acceleration.
23. Stewart and Matt decide to take the train to the Grand Canyon. The train starts from rest and reaches a speed of 54 km/h in 10 s. Find its acceleration.
24. During his experiment, Devin finds that his rocket starts from rest and accelerates to a speed of 220 km/h in 22 s. What is the acceleration?
25. Looking for some good old-fashioned fun, Andrew decides to slide down the hill by the staff entrance on a toboggan. Calculate the acceleration of the toboggan that reaches a velocity of 32 m/s in 8 s.
26. While participating in the "Tractor Race Finals", Rob accelerates his tractor from rest to a speed of 18 m/s in 6 s. What is Rob's acceleration?
27. Christina is printing off a sheet for science class and doesn't want to miss her bus. Running out the door at an impressive 18 m/s, she realizes that the bus is pulling away and she can't make it. She slows down and stops in 4.5 s. Calculate her acceleration.